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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/773,815	01/31/01	CARPENTER W	P01426US2

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EXAMINER	
KRECK, J	
ART UNIT	**PAPER NUMBER**
3673	5

DATE MAILED: 07/25/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/773,815	CARPENTER, WILLIAM T.	
	Examiner	Art Unit	
	John Kreck	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

1. It is well established in patent law that natural laws or scientific theories are not in themselves patentable subject matter. The method claims of the instant application do not include any positive steps that result in a useful, concrete and tangible result. The method steps include limitations drawn only to "determining"; "characterizing"; "selecting"; and "calculating". In order to be considered as patentable subject matter, the claimed invention as a whole must accomplish a practical application. "The Supreme Court has identified three categories of subject matter that are unpatentable, namely "laws of nature, natural phenomena, and abstract ideas." Diehr, 450 U.S. at 185. Of particular relevance to this case, the Court has held that mathematical algorithms are not patentable subject matter to the extent that they are merely abstract ideas. See Diehr, 450 U.S. 175 [209 USPQ 1], passim; Parker v. Flook, 437 U.S. 584 [198 USPQ 193] (1978); Gottschalk v. Benson, 409 U.S. 63 [175 USPQ 548] (1972). In Diehr, the Court explained that certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas until reduced to some type of

practical application, i.e., "a useful, concrete and tangible result." Alappat, 33 F.3d at 1544, 31 USPQ2d at 1557." State Street, 149 F.3d at 1373, 47USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed.Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful. The claims must recite steps that produce a useful, concrete and tangible result. See MPEP 2106.

2. Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. Insofar as the invention is drawn to a method of modifying the axis of rotation of the Earth (it is noted that the claims, as written, are drawn to non-statutory subject matter); the invention is against public policy. The modification of the axis of rotation of the Earth would result in fundamentally devastating changes to every aspect of life on Earth. The changing of the axis of rotation would, at least, severely modify the global climate; upset growing seasons; cause severe earthquakes and tidal waves; interrupt global communications; and interfere with navigation. It is likely that any significant change of the axis of rotation of the Earth would cause many deaths.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims are indefinite because they do not recite any positive method steps which result in a useful, concrete and tangible result. It would be impossible for one of ordinary skill in the art to determine the metes and bounds of the claims.

Claim 1 recites the limitation "the planet" in line 5. There is insufficient antecedent basis for this limitation in the claim.

It is noted that claim 3 (as written) is a duplicate of claim 2; while in the parent application, claim 3 called for an above ground cavity. It is assumed that applicant intends to claim an above ground cavity in claim 3.

Claim Rejections - 35 USC § 102 and 35 USC § 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. It is noted that the claims, as written, do not recite any positive method steps that can be given weight as patentable subject matter. Insofar as the claims are directed to patentable subject matter; they are anticipated or unpatentable as set forth below.

5. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 10 3(a) as obvious over Hubert (US Patent 5,058,834). Hubert teaches the steps of determining the mass of a spacecraft or satellite; determining the center of mass of the spacecraft or satellite; characterizing the axis of rotation of the spacecraft or satellite; calculating a moment of stability required to cause the desired character of rotation; and determining a position and a mass of a compensating substance sufficient to effect the moment of stability. It is well known that the Earth is a satellite of the Sun; and the Earth is regarded by many to be a spacecraft. Although Hubert's disclosure does not specifically address the use of the method steps applied to the Earth; the terms spacecraft and satellite, as used by Hubert, are deemed to encompass the Earth. If it is deemed that Hubert does not anticipate the use of the method steps applied to the Earth; then it would have been obvious to one of ordinary

skill in the art at the time of the invention to have applied the method steps to the Earth, as an educational exercise, for example.

Hubert also teaches the liquid as called for in claim 5.

6. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Storaasli (US Patent 5,597,141). See, in particular, col. 1, lines 27-60; the method of shifting a mass on an orbiting body in order to shift its rotational characteristic is well-known. Storaasli teaches the steps of determining the mass of a satellite; determining the center of mass of the satellite; characterizing the axis of rotation of the satellite; calculating a moment of stability required to cause the desired character of rotation; and determining a position and a mass of a compensating substance sufficient to effect the moment of stability. It is well known that the Earth is a satellite of the Sun; and thus the term satellite, as used by Storaasli is deemed to encompass the Earth. If it is deemed that Storaasli does not anticipate the application of the method steps to the Earth; then it would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the method steps to the Earth, as an educational exercise, for example.

Storaasli also teaches the solid as called for in claim 4.

7. Claims 2, 3, and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubert (US Patent 5,058,834). Hubert teaches all of the steps of claim 1, from which these claims depend; but does not teach that the calculations are based on an underground or aboveground cavity; nor does Hubert teach that the liquid is water.

It is well known in the art that liquid is best stored in a cavity (above or below the ground, e.g. tank, salt dome, or reservoir) in order to prevent leakage or evaporation. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to carry out the method steps as taught by Hubert by basing the calculations on the use of an underground cavity as called for in claim 2 or an aboveground cavity as called for in claim 3. This would have been obvious as an educational exercise, for example.

Hubert discloses the use of liquid as called for in claims 6 and 7; but does not disclose the use of water as called for in claims 8-10. Water is the most common liquid available on Earth, thus it would have been further obvious to one of ordinary skill in the art at the time of the invention to carry out the method steps as taught by Hubert by basing the calculations on the use of water as the liquid as called for in claims 8-10. This would have been obvious as an educational exercise, for example.

8. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Storaasli (US Patent 5,597,141).

Storaasli teaches all of the limitations of claim 1, from which these claims depend. Storaasli does not teach that the calculations are based on an underground or aboveground cavity. It is well known to place mechanical components in cavities (either above or below ground, e.g. basements, tunnels, or office buildings) in order to protect them from the weather and to prevent theft or vandalism. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to carry out the method steps as taught by Storaasli by basing the calculations on the use of an

underground cavity as called for in claim 2 or an aboveground cavity as called for in claim 3. This would have been obvious as an educational exercise, for example.

9. Claims 1, 3, 4, 5, 7, 8, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Darwin "On the Influence of Geological changes on the Earth's Axis of Rotation".

Darwin teaches the steps of determining the mass of the Earth; determining the center of mass of the Earth; characterizing the axis of rotation of the Earth; selecting a desired character of rotation; calculating a moment of stability required to cause the desired character of rotation; and determining a position and mass of a compensating substance to effect the moment of stability as called for in claim 1.

Darwin also teaches the aboveground cavities (see page 296) as called for in claim 3.

Darwin also teaches the solid (rock or ice) as called for in claim 4.

Darwin also teaches the liquid (seawater) as called for in claim 5.

Darwin also teaches the liquid (seawater) as called for in claim 7.

Darwin also teaches the water as called for in claim 8.

Darwin also teaches the water as called for in claim 10.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kreck whose telephone number is (703)308-2725. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (703)308-2151. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3597 and (703)305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-4177.

JJK
July 16, 2001

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